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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,675	09/24/2003	Anna Rosa Coden	YOR920030426US1	7520

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SHELTON, CT 06484-6212

EXAMINER
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JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/670,675

Applicant(s)

CODEN ET AL.

Examiner

Jakieda R. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-12 and 25-34** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claims 25-34** are drawn to a "program" *per se* as recited in the preamble and as such is/are non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any

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structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

**Claims 1-12 and 25-34** disclose a method and computer readable medium medium storing computer implementable processor steps for causing a programmable computer to perform a method comprising some steps. A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. To be statutory, a claimed process must either; (A) result in a physical transformation for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application which produces a useful, tangible, and concrete result. See *Diehr*, 450 U.S. at 183-84, 209 USPQ at 6. Claim 29 does not result in a physical transformation nor does it produce a useful, tangible and concrete result since it is merely a medium. Therefore, claims 1-12 (the method claims) which encompasses the same limitations of claims 24-34 (the computer readable medium) cannot be statutory, by Applicant's own admission.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-37** are rejected under 35 U.S.C. 102(e) as being anticipated by Shanahan et al. (USPN 6,732,090), hereinafter referenced as Shanahan.

Regarding **claims 1, 13, 25 and 35**, Brecher discloses a method, system and computer readable medium, hereinafter referenced as a method, to process a document, comprising:

partitioning document text into a plurality of sentences (parsing techniques that delimit sentences; column 27, lines 4-18 with column 37, lines 28-45 and column 42, lines 5-17);

for each sentence, assigning corresponding associated parts of speech to words (part-of-speech), where assigning comprises applying a plurality of regular expressions (regular expressions), rules (rules) and a plurality of dictionaries (lexicon; column 10, lines 42-65) to recognize chemical name fragments (chemical formula recognizer; column 53, lines 6-19), to combine recognized chemical name fragments into a complete chemical name, and to assign the complete chemical name with one part of speech (column 10, lines 42-65 and column 66, lines 35-49); and

parsing the sentence into its component parts based at least in part on the assigned parts of speech (part-of-speech; column 10, lines 42-65 with column 27, lines 4-18 with column 37, lines 28-45).

Regarding **claims 2, 14, 26 and 36**, Brecher discloses a method where the complete chemical name is assigned a noun phrase part of speech (noun phrase; column 10, lines 42-65 with column 42, lines 5-17).

Regarding **claims 3, 15 and 27**, Brecher discloses a method where said plurality of dictionaries comprise a dictionary of common chemical prefixes (prefix) and a dictionary of common chemical suffixes (column 40, lines 17-31).

Regarding **claims 4, 16 and 28**, Brecher discloses a method where said plurality of dictionaries comprise a dictionary of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65).

Regarding **claims 5, 17 and 29**, Brecher discloses a method further comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65).

Regarding **claims 6, 18 and 30**, Brecher discloses a method where chemical name fragments are further recognized by using common chemical word endings (commonly used; column 16, lines 55-67 with column 70, lines 5-23 and column 70, line 65 – column 71, line 2).

Regarding **claims 7, 19, and 31**, Brecher discloses a method where application of said regular expressions (regular expressions) and rules results in punctuation characters (characters) being one of maintained or removed between chemical name fragments as a function of context (column 10, lines 42-65 with column 42, lines 31-49).

Regarding **claims 8, 20 and 32**, Brecher discloses a method where said regular expressions comprise a plurality of patterns, individual ones of which are comprised of at least one of characters, numbers and punctuation (punctuation characters; column 42, lines 31-49 with column 57, lines 26-37).

Regarding **claims 9 and 21**, Brecher discloses a method where the punctuation comprises at least one of parenthesis (parentheses), square bracket (square bracket), hyphen, colon and semi-colon (column 38, lines 59-67).

Regarding **claims 10 and 22**, Brecher discloses a method where the characters comprise at least one of upper case C, O, R, N and H (inherent in capital letter; column 38, lines 59-67 with column 49, lines 58-65).

Regarding **claims 11 and 23**, Brecher discloses a method where the characters comprise strings of at least one of lower case xy, ene, ine, yl, ane and oic (lower case; column 49, lines 58-65).

Regarding **claims 12, 24 and 34**, Brecher discloses a method comprising an initial step of tokenizing the document to provide a sequence of tokens (tokenized; column 37, lines 28-45 with column 42, lines 5-17 and column 49, lines 58-65).

Regarding **claim 33**, it is interpreted and rejected for same reasons as set forth in the combination of claims 9-11.

Regarding **claim 37**, Brecher discloses a system where a user of the system accesses the system through a data communications network (network; column 13, lines 22-35).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-37** are *alternately* rejected under 35 U.S.C. 103(a) as being unpatentable over Brecher (USPN 7,054,754) in view of Shanahan.

Regarding **claims 1, 13, 25 and 35**, Brecher discloses a method, system and computer readable medium, hereinafter referenced as a method, to process a document, comprising:

partitioning document text into a plurality of sentences (parse; column 8, lines 4-18); and

where assigning comprises applying a plurality of regular expressions, rules (rules; column 2, lines 59-65) and a plurality of dictionaries to recognize chemical name fragments (dictionary; column 6, lines 60-67), to combine recognized chemical name fragments into a complete chemical name, and to assign the complete chemical name with one part of speech (chemical name fragment; column 3, lines 14-24), but does not specifically teach assigning parts of speech.

Shanahan discloses a method wherein for each sentence, assigning corresponding associated parts of speech to words and parsing the sentence into its



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component parts based at least in part on the assigned parts of speech (part-of-speech; column 10, lines 42-65), to denote the grammatical usage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method wherein it teaches assigning, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 2, 14, 26 and 36**, Brecher discloses a method to process a document, but does not specifically teach a method where the complete chemical name is assigned a noun phrase part of speech.

Shanahan discloses a method where the complete chemical name is assigned a noun phrase part of speech (noun phrase; column 10, lines 42-65 with column 42, lines 5-17), to denote the grammatical usage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method where the complete chemical name is assigned a noun phrase part of speech, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by

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automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 3, 15 and 27**, Brecher discloses a method where said plurality of dictionaries comprise a dictionary of common chemical prefixes and a dictionary of common chemical suffixes (figures 7c-7g with column 9, line 52 – column 10, line 30).

Regarding **claims 4, 16 and 28**, Brecher discloses a method to process a document, but does not specifically teach where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments.

Shanahan discloses a method where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65), to discard un-important words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 5, 17 and 29**, Brecher discloses a method to process a document, but does not specifically teach filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments.

Shanahan discloses a method comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65), to discard un-important words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 6, 18 and 30**, Brecher discloses a method where chemical name fragments are further recognized by using common chemical word endings (suffix; figures 7c-7g).

Regarding **claims 7, 19, and 31**, Brecher discloses a method where application of said regular expressions and rules results in punctuation characters (punctuation characters) being one of maintained or removed between chemical name fragments as a function of context (column 8, lines 4-48).

Regarding **claims 8, 20 and 32**, Brecher discloses a method where said regular expressions comprise a plurality of patterns, individual ones of which are comprised of at least one of characters, numbers and punctuation (punctuation character; column 8, lines 4-48 and column 9, lines 10-51).

Regarding **claims 9 and 21**, Brecher discloses a method where the punctuation comprises at least one of parenthesis (parenthesis), square bracket (square bracket), hyphen, colon and semi-colon (column 8, lines 4-48).

Regarding **claims 10 and 22**, Brecher discloses a method where the characters comprise at least one of upper case C, O, R, N and H (column 4, line 19 – column 5, line 40).

Regarding **claims 11 and 23**, Brecher discloses a method where the characters comprise strings of at least one of lower case xy, ene, ine, yl, ane and oic (figures 7d-7g, lower-case characters; column 3, lines 7-8 with column 6, lines 30-39 and column 7, lines 25-57 and column 11, lines 10-17).

Regarding **claims 12, 24 and 34**, Brecher discloses a method comprising an initial step of tokenizing the document to provide a sequence of tokens (token; column 6, lines 40-67).

Regarding **claim 33**, it is interpreted and rejected for same reasons as set forth in the combination of claims 9-11.

Regarding **claim 37**, Brecher discloses a system where a user of the system accesses the system through a data communications network (column 12, lines 55-61).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Framroze et al. (PGPUB 2002/0169755) disclose a system and method for the storage, searching, and retrieval of chemical names in a relational database.
- Moore et al. (USPN 5,950,192) disclose a relational database management system for chemical structure storage, searching and retrieval.
- Aarskog (PGPUB 2005/0105001) discloses a method and apparatus for textual exploration discovery.
- Nakao (USPN 6,963,830) discloses an apparatus and method for generating a summary according to hierarchical structure of topic.
- Ishikura (USPN 6,823,301) discloses language analysis using a reading point.
- Razin et al. (USPN 6,098,034) disclose a method for standardizing phrasing in a document.
- Matier et al. (PGPUB 2005/0131025) disclose amelioration of cataracts macular degeneration and other ocular diseases.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ  
February 27, 2007



DAVID HUDSPETH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER